CLAIMS

1. A method for manufacturing a fuel cell bipolar plate, the method comprising heating and softening a nonwoven fabric including an electrically conductive powder and thermoplastic resin fibers of 0.1 to 20 μm diameter, and shaping the softened nonwoven fabric.

2. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the nonwoven fabric has an content of the electrically conductive powder of 70 wt% or more.

3. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the electrically conductive powder has an average particle size which is at least ten times the diameter of the thermoplastic resin fibers and not more than one-third the length of the thermoplastic resin fibers.

4. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the nonwoven fabric has a porosity of 50% or more.

5. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the thermoplastic resin fibers are polyarylene sulfide resin fibers.

6. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the electrically conductive powder is uniformly distributed within the nonwoven fabric.

7. The method for manufacturing a fuel cell bipolar plate according to claim 1, wherein the nonwoven fabric is shaped using a mold.

8. A fuel cell bipolar plate obtained by heating and softening a nonwoven fabric including an electrically conductive powder and thermoplastic resin fibers of 0.1 to 20 μm diameter, and shaping the softened nonwoven fabric.

9. The fuel cell bipolar plate of claim 8, which has a volume resistivity in a thickness direction of 30 mΩ·cm or less.

10. A fuel cell comprising a stack construction in which a plurality of electrolyte-membrane-electrode assemblies, each of which has a pair of mutually opposed electrodes and an electrolyte membrane disposed between the electrodes, are stacked so that the electrolyte-membrane-electrode assemblies are each held between bipolar plates,

wherein the bipolar plates are the fuel cell bipolar plates of claim 8.